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ABSTRACT

A study examined the relationships between cognitive tasks and social skills that are relevant to prereading or beginning reading instruction by observing lessons given to small groups of children. Four preschool children--one with many prereading skills and three with few skills--participated in the study. Student-teacher interaction that occurred in an early reading lesson was compared with that occurring in a later lesson to determine if differences existed between the teacher's interaction patterns with the "high knowledge" child and with the "lower knowledge" children. The results showed that over time, the children did learn how to make more accurate and more extensive use of social patterns to participate in a lesson. An analysis of the teacher's interaction with the four students revealed that the teacher was affected by the "high knowledge" student's displays of competence and tended to repeat, acknowledge, or praise that child's answers more frequently than those of the other children. The findings of the study suggest that the problem of how to interact with a group of children rather than with one child can be resolved by routine use of a familiar participation pattern--by using exactly the same set of tasks. Such a pattern would allow the teacher to gradually diminish his or her role in the learning process. (FL)

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CENTER FOR THE STUDY OF READING

Technical Report No. 205

LEARNING SOCIAL CONTEXT CHARACTERISTICS IN PREREADING LESSONS

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Learning Social Context Characteristics In Prereading Lessons

An area of reading research in which interest is fast growing is the study of actual classroom instruction. Perhaps the main reason for this trend is that we have begun to recognize how little we know about the conditions in which children must learn to read, in real classrooms (Cazden, in press). Until very recently, we had little information even at a basic descriptive level. For example, we did not have data on the amount of time generally allocated for reading instruction nor on how much of this time children spent academically engaged in reading. Fortunately, these gaps in our knowledge are fast being filled (e.g., Fisher, Filby, Marliave, Cahen, Dishaw, Moore, & Berliner, Note 1). The conviction that we should try to find out more about what actually transpires during classroom reading instruction is further reinforced by the growing body of evidence that cognitive tasks cannot be interpreted accurately apart from social setting characteristics (e.g., Cole, Hood, & McDermott, Note 2). The idea is that research results are misleading unless cognitive processes, such as those involved in reading, are studied in conjunction with the social circumstances in which skills are learned and practiced. However, if we study the ways in which cognitive and social processes are interrelated in classroom reading instruction, we might then be able to improve the quality of instruction. Cazden (in press) states the argument in the following way:

> Learning to read, like mature reading later on, is certainly a cognitive process; but it is also a very social activity, deeply embedded in interactions with teachers and peers. Hopefully, as we understand those interactions more fully, we will be able to design more effective environments for helping children learn. (p. 1, manuscript)

In one set of studies which rely on ethnographic techniques, analyses of teacher-pupil interactions have begun to show how the nature of the social structure in a classroom can affect learning. Children may need to understand the rules governing participation in classroom lessons--that is, rules for speaking and listening during group activities--in order to benefit from instruction. Analyses of social participation structures in instructional settings (which have shown that the predominant structure is a teacher question followed by a student response and then a teacher evaluation) have provided evidence of communication mismatches between students and teachers. Au (1980), Boggs (1972), Collins and Michaels (1980), Kochman (1972), Philips (1972), Shultz, Erickson, and Florio (in press), Cole, Hood, and McDermott (Note 2), Erickson and Mohatt (Note 3), and Michaels (Note 4) found discontinuities between turntaking structures used in school and at home. They found, principally, that minority culture children did not adjust easily to the prevailing social interaction patterns. Au further demonstrated that when children were allowed to use a turntaking structure that was more familiar to them, their

rate of topically relevant verbal interchange, interest in the lesson, and attentiveness to reading increased. McDermott and Aron (1978) showed that turntaking structures for children in the bottom reading groups were different from and, moreover, more disruptive to learning than were the structures utilized for the top groups. Collins and Michaels (1980) reported differences in the way a lesson is structured and in correction procedures provided for good and poor readers, differences which favor good readers. These studies suggest that school achievement is in part a function of the means by which children are allowed to participate in a classroom lesson. That is, how a lesson is socially structured can influence children's willingness or ability to attend to a cognitive task. None of these studies, however, has centered on the development of young children's ability to participate within a well-defined context nor on teachers' responses to improvements in children's interactive skills. We hoped that by analyzing children's social interactions with a teacher but in an academic setting, we would find changes over time in children's ability to interact with a teacher. We also hoped that grouping children together for instruction whom we knew from our tests differed somewhat in their understanding of reading would enable us to propose a model indicating how children might use social interactions to signal their knowledge to others and how teachers use interactions to foster learning.

In the study to be described here, we focused on the relationships between cognitive tasks and social skills that would be relevant to prereading or beginning reading instruction, studying lessons given to small

groups of children. We analyzed four children's interactions with a teacher, comparing an early lesson with one that occurred later, and looking for differences in the social interaction patterns of a high-knowledge child (one who had many prereading skills) in comparison with three other lower-knowledge children. Because we wanted to study the early use of social skills in an instructional setting, we arranged to work with preschool children who had not already learned to work in group settings. Some of the methods we used are termed "microethnographic" because our aim was the fine-grained analysis of a relatively small sample of behavior, in this case two videotaped lessons. We think that microethnography makes it possible for researchers to sort out many of the complexities of lessons in order to reveal relationships previously unseen. In addition, we applied methods of discourse analysis. Specifically, we looked at the relationships among academic tasks, social interaction (turntaking) structures, and participants' speech acts.

Methods

Subjects and Setting

Fifteen children, aged 3.7 to 5 years, were given ten 15-minute prereading lessons. Four of the children, whose lessons we analyzed for this report, were selected from among the 15 because parent interviews and a test we gave indicated that these four were representative of children just beginning to understand what it might mean to read. Three of the children knew a few letter names but were not able to read any words.

The fourth, although also not reading words, knew half or more of the letters, showed more interest than the others in letters and words, and was beginning to figure out how to spell short words. The teacher who conducted the lessons was experienced, with a sound background in reading instruction, and was not the children's regular classroom teacher. The lessons were conducted in a small room at the church-sponsored daycare center where the children were enrolled. The church was located in a mid-sized town in Southern Illinois. The children were middle class in socioeconomic status and their mothers had fulltime jobs or were attending college.

Procedures

The lessons consisted of letter, word, picture, and story tasks that had been tried out in earlier work with preschool children (Mason, 1980). For all the tasks, the children sat around a small table with the teacher. The teacher was instructed that for most tasks children were to be called on one by one, in the same order each time, so that they would learn how to take turns during the lessons. Instruction took place daily, in the morning, with lessons planned to last about 15 minutes. Four of the sessions were videotaped, the second and fifth being transcribed for purposes of this analysis. The remaining seven videotapes, including those made of the three other groups, were more briefly studied to verify the patterns of change over time and of signaling used by the more knowledgeable child in each group.

Identification of tasks and turntaking structures. The teacher closely followed the tasks set for the lessons by the researcher, enabling the tasks seen in the videotapes to be easily identified and categorized. Also, because at least one turntaking structure had been specified for the teacher, this area of the analysis was made somewhat easier.

In accordance with the procedure outlined by Erickson and Shultz (in press), transcripts were made of the second and fifth lessons. Both the transcripts, and the videotapes, were studied until we could determine when the teacher shifted to a new task or to another way of managing turntaking structures. (In those transcripts, this consisted of (a) teacher talks, children listen, (b) teacher directs, children take turns responding, and (c) children talk, teacher answers.) Both were discerned from proxemic cues of the teacher (shift in body position or change in focus of attention), intonation and use of key words signaling the introduction of something new (e.g., "Now" with falling tone), and a return to speaking to the group as a whole, rather than to individuals. After marking off task and turntaking structures, we coded each remark by the teacher and the children and the nonverbal response of the children to task demands that signified a new intent or message. Each lesson was considered to have begun when the teacher, after having seated the children, verbally introduced the initial reading task. It was considered to have ended when, in the first case, the teacher announced, "Okay, I think that's all we have to do for today," and in the second, when she said "Okay" after the children agreed that they had read enough stories.

Identification of speech acts. Work by Dore (1976, 1977, 1978), Lieven (1976), and Shields (1976) provided the basis for a modified classification of verbal utterances and nonverbal responses, adjusted to focus on the intent of a classroom lesson. All were classified according to their explicit or implied intent and tagged with a minus sign if the remark was out of place with regard to the turntaking structure then in force. Since most of the interactions were dominated by the teacher around academic tasks and required information about degree of compliance or correctness, we separated assertive remarks into two categories (statements which were related to the topic and comments which dealt with other child-inserted topics) and separated responsives into correct or incorrect categories. Performatives were chosen to capture children's attempts to express their ability or interest in carrying out an academic task. Requestives coded the few occasions that children asked for something. Regulatives and expressives were separated into repetitives (when a child repeated someone else's remark immediately after it was made) and conversational devices (a catch-all category for an assortment of miscellaneous remarks). Since nearly all of the children's remarks were made to the teacher, coding the intended listener was not necessary. The teacher's remarks were classified into requestives (prompts, directives, and genuine questions), assertives (statements), regulatives (conversational devices to order, maintain, or extend an interaction), responsives that attempted to change behavior (admonish, correct, aid), and responsives that did not attempt change (accept, praise, repeat, answer). Her remarks were also coded with respect to the intended listener. More complete definitions of each type of speech act are presented in Appendix A.

Results

Tasks

Seven different tasks were identified, four of which appeared in both lessons. The tasks are listed below, in the order in which they occurred in Lesson 2. Times given are accurate to about ±3 seconds.

(1) Identifying a child's name on a card (.6 minutes, Lesson 2 only). The teacher asked the children, "Who knows whose name is on this card?"

(2) Finding the letter-of-the-day from a box of letters (3.4 minutes in Lesson 2, 2.3 minutes in Lesson 5, 5.7 minutes total). The teacher held out a box containing letter cards and children attempted to pick out a t in Lesson 2 and an m in Lesson 5.

(3) Thinking of a word that begins with the letter-of-the-day (1.15 minutes in Lesson 2, 1.8 minutes in Lesson 5, 2.95 minutes total). Children were asked to say words that began with a t in Lesson 2 and with an m in Lesson 5.

(4) Drawing the letter-of-the-day and pictures of objects beginning with the letter (4.2 minutes in Lesson 2, 4.4 minutes in Lesson 5, 8.6 minutes total). Children were asked to draw a t or m then, with the teacher's help, to think of and draw pictures of objects that began with the letter.

(5) Reading stories (4.55 minutes in Lesson 2, 5.8 minutes in Lesson 5, 10.35 minutes total). After the teacher read a brief story,

she asked each child to read one or two pages of it. The stories were in small booklets, and each was designed to incorporate many words beginning with the same letter. The t story was learned in Lesson 2 and the m story in Lesson 5. Also, other stories already learned were reread.

(6) Reading and pointing to the letter-of-the-day (1.3 minutes, Lesson 2 only). In Lesson 2 the teacher introduced this task with, "Now this time I'm gonna read it [one of the stories described in Task 5] but I want you to show me all the words that start with 'tuh'." In Lesson 5 she briefly attempted to introduce this task again, but the children continued to read without pointing, so no additional time in it was recorded.

(7) Handing a letter card to the teacher (.3 minutes, Lesson 5 only). The teacher inserted this task before Task 3 by asking the children to hand her a card as she named a word that began with the letter, e.g., "Could you give me an m for marshmallow, please?"

The four tasks which occurred in both lessons (Tasks 2, 3, 4, and 5) accounted for 27.6 of the 29.8 minutes. The other three tasks (1, 6, and 7), which appeared in only one lesson, encompassed little lesson time (only 2.2 minutes).

Turntaking

Based on earlier work by Au (1980), Mehan (1979) and Sinclair and Coulthard (1975), three turntaking structures were identified in the two lessons: (a) child-initiated remarks (CIR), 4.4 minutes in Lesson 2, 4.7

minutes in Lesson 5, 9.1 minutes total; (b) teacher question-child response-teacher evaluation (QRE), 7.6 minutes in Lesson 2, 7.4 minutes in Lesson 5, 15.0 minutes total; and (c) teacher direction-child listen (TDL), 3.2 minutes in Lesson 2, 2.5 minutes in Lesson 5, 5.7 minutes total.

The CIR structure is evident when a teacher responds to a child-initiated remark. It occurred for the longest duration when the teacher set up a drawing and printing task (Task 4) for the children to carry out, and briefly when another turntaking structure was supposedly in force. In the drawing task during the CIR structure. the teacher either responded to requests, talked to individuals, or occasionally inserted comments to the whole group. For example, in Lesson 5, both KR and TO had initiated requests for help in drawing letter m's. The teacher finished helping TO saying:

T: There you did it TO. (Moves to KR.) Oh that's a--Do you want a little one KR or a big one?

KR: Uhh.

JE: Here's a picture of mud.

T: You're right. That does look like mud. Put an m by it. (Moves to AN.) Okay AN.

JE: I'm goin' to make a big m. Make a monster.

T: A monster: Okay. You put an m by it.

KR: I'm goin' make my mud.

T: Mud? [What is that?] (Starts to move to KR but stops by TO).

KR: [Inaudible]

As is evident from this portion of the transcript, children were free to comment whenever they pleased without regard for the teacher's activity or attention, although the teacher attempted to respond to each child's request or remark.

The QRE structure, which prevailed here as it does also in most primary grade classrooms, occurring for half the lesson time, is one in which a series of short dialogues transpire between the teacher and a single child. In these lessons the teacher gave each child a turn in a counter-clockwise direction around the small table, usually by mentioning the child's name and/or directing her gaze to the child. Occasionally she also added, "It's your turn." Following her directive or prompt and a response by the child, she typically acknowledged or evaluated the response. Each three-part interaction generally took only 5-10 seconds. Usually the other children remained attentive while one child was receiving a turn. Here are examples from two different tasks.

(Teacher has children reread a story from the s booklet, Lesson 2.)

T: What was this one, TO? A . . .
TO: Snail.
T: A smiling snail. Very good. What was this one, AN?
AN: A sneeze--a sneezing snake.
T: Right. A sneezing snake.
ALL: [Laugh
T: Now JE hasn't seen this one before.] I'll go. A splashing . . .
JE: Spider.
T: Yeah. What're they doin', sitting . . .
KR: . . . in a . . .
T: At supper

(Teacher has asked children to find m's in a box.)

T: JE, you find an m.
(JE picks letter card.)
T: Oh, he got one. A--oh AN. Can you find an m, our letter for today? (AN picks letter card.)
T: Huh, you did. Let's let TO get one.
(TO picks letter card.)
T: Huh, good.

The TDL structure was used by this teacher principally to introduce the procedures for working or responding. During this time the children were supposed to listen but not speak. Duration of this structure never exceeded 36 seconds and more often occurred for 6-12 seconds. Here are two examples from the second lesson.

(Children are about to read a story.)
T: Now. Let's look at our tuh story. Remember from yesterday. I read it first and then you read it. (After an interruption by TO and JE, she continues.) This is a story about Teeny Tiny . . . (continues by reading the story).

(After she reads the story, she says)
T: Okay, let's see. TO, can you tell me what's this page?

Mapping of turntaking structures over tasks. The four tasks which occurred in both lessons were conducted almost entirely in either the CIR or the QRE turntaking structure, apart from some time in the TDL structure, when the teacher explained the task to the children. Thus, Tasks 1, 2, 3, 5, 6, and 7 were conducted principally in the QRE turn-taking structure, while Task 4 was associated with the CIR structure.

The occurrence of turntaking structures within tasks across the two lessons is shown in Figure 1. It was apparent, as others have demonstrated (e.g., Sinclair & Coulthard, 1975), that changes in lesson content were usually marked by the teacher taking control of the floor, using the TDL structure to speak to the group. As seen in the figure, the later lesson showed fewer shifts in task and turntaking structure. There were 6 task and 30 turntaking structure shifts in Lesson 2, but 4 task and 23 turntaking structure shifts in Lesson 5.

Insert Figure 1 about here.

Violations of turntaking rules. Each turntaking structure carries with it particular rules for social interaction. It is readily apparent, for example, that the QRE structure requires children to take turns responding. Not only does the teacher point to, turn toward, look at, or name the child who has the turn, but children who speak out of turn are admonished, while those who remain silent are often helped or prodded until they do respond. That the TDL structure allows only the teacher to have a turn is evident by the response to an interruption--the teacher either ignores it or gives a very brief answer but returns immediately to the teacher's topic. The CIR structure, by contrast, allows anyone to talk, but since communication is the purpose, speakers should not interrupt each other. Ideally, children should vie for the floor but then be quiet when another person is speaking. Children, then, have a complex set of school social interaction patterns to figure out: When ought they remain silent,

when is it sharing-turns time, and when can they speak out? How does the teacher signal these changes to the children?

To study whether children learned to follow the rules that were evident in these transcripts, their remarks were coded with a minus if they violated a rule of the turntaking structure that was then in force. Violations were then categorized as shown in Table 1.

Insert Table 1 about here.

In no category were there more violations in Lesson 5 than in Lesson 2, and altogether there was a reduction by three times in the proportion of violations. However, two borderline types of remarks which occurred only in Lesson 5 were not included here: (a) There were six insertions of statements by children during the TDL structure, but these occurred when the teacher had paused because she was at the end of a statement or directive. Since the children may have believed she was at a juncture between turntaking structures, and since they did not in these cases overlap her speech, these were not counted as violations. (b) There were nine occasions when, during the QRE structure, as a child hesitated in answering, another child whispered the answer to him or her. Since the child spoke directly to the turntaker, without usurping the other's turn, these remarks were not counted as violations either. Both of these borderline cases seemed to us attempts to "bend the rules;" that is, they seem to be based on an understanding of the rules, rather than a lack of knowledge of them.

Speech Acts

The four children produced a total of 140 speech acts (verbal utterances and nonverbal messages) in Lesson 2, and a total of 215 in Lesson 5, as shown in Table 2. There were substantial changes over the two lessons in the type of speech acts children used. They more than doubled their self-initiated remarks (requestives, assertives, and performatives) and remarks that could extend an interaction with the teacher (regulatives and expressives), but they had fewer responsives.

The teacher produced a total of 637 remarks (Table 3), which were nearly evenly divided between the two lessons. The only noticeable change for the teacher was in the incidence of the two types of responsives. There was a decrease over time in change-initiating responsives (help, correct, or admonish) and an increase in other responsives (praise, accept, or repeat). These changes probably occurred because the teacher adjusted the tasks to children's knowledge.

Insert Tables 2 and 3 about here.

Table 4 shows a breakdown of the children's speech acts according to the turntaking structure. A comparison over the two lessons of the child-initiated remarks (summing requestives, assertives, and performatives) indicates that these remarks increased principally during the CIR structure (14 such remarks in Lesson 2, but 44 in Lesson 5). However, increase in use of regulatives and expressives occurred almost entirely during the QRE structure (24 remarks in Lesson 2, but 67 in Lesson 5).

This suggests that the children adapted their verbal interactions with the teacher to fit better the turntaking structure imposed by the teacher. However, to guard against the possibility that the effects attributed to learning of turntaking rules were actually the results of particular tasks, children's speech acts were tabulated according to lesson and task. As shown in Table 5, speech acts increased in all four tasks which occurred in both lessons. Thus, there is little evidence to suggest that task differences affected speech rate changes. (For example, it was not true that easier tasks generated a greater response rate.)

Insert Tables 4 and 5 about here.

The following examples from the transcripts show how much more smoothly Lesson 5 occurred as the result of the children's greater social and cognitive understanding. Children interpreted a greater number of task-appropriate remarks at appropriate junctures in the turntaking contexts.

Lesson 2, CIR Structure, Task 4

T: Let's make a t for - um - a toaster.
Can you make another t for Toas [ter?
KR: [Look!
T: Okay. Now let's think of a picture you could draw and make a t to go with it. (Leans toward TO). What has - what has a t sound?
KR: [Toooo
JE: [inaudible
T: A toad or a turtle or a turnip.
[Who could make--
AN: [What is that--

Lesson 5, CIR Structure, Task 4

T: Okay, which one are you goin to make? (Speaking to TO)
AN: Shall we make the big one? I can't make an--any either.
T: That's very good AN. Try again.
That's really very good.
JE: I made a m, a small m.
T: Oh, very nice.
KR: I can't make one.
JE: I'm goin to make a picture of mud.
T: There you did it TO. (Moves to KR.) Do you want a big one K. Yes? A big one?
KR: Uh uh.
JE: Here's a picture of mud.

Lesson 2, QRE Structure, Task 2

T:	Get a t outa there.	T places box in front of AN.
	Huh. Good girl.	AN picks letter.
JE:	(inaudible)	T places box in front of JE.
T:	There's some big ones and some little ones. Good JE.	JE picks letter.
T:	Okay, KR.	
	Huh, Good boy.	

Lesson 5, QRE Structure, Task 2

T:	KR. [Let KR go next.	T places box before KR.
JE:	[I got a big one.	
TO:	I got a big one too.	
T:	Did you get one?	KR picks letter.
	Everybody got a big one this time.	
TO:	But not AN.	
T:	Didn't ya, oh, you're right TO. She got a little m.	
	There you go JE.	T puts box before JE.
JE:	Big m.	
T:	Another big one.	

Reduction of speech acts while giving directions. Another aspect of social learning is evident as the teacher realizes the children understand the task and reduces task descriptions. On repetitions of the four tasks that were repeated, she used fewer words and phrases and often made fewer directives or descriptive statements. There were 17 separate remarks over the four tasks in Lesson 2 and 13 in Lesson 5. All the teacher's TDL remarks for the four tasks are reported below: The number of remarks made are noted after each task.

Lesson 2, Task 2 (after drawing for children a printed upper- and lower-case t)

T: Now, let's see if you can find the t. All right? This is first time for JE but TO did this yesterday. TO, you want to pick the first one? (4)

Lesson 5, Task 2 (after drawing m's)

T: Let's see how many m's you can find in this box. Let's take them one at a time. JE, you find an m. (3)

Lesson 2, Task 3

T: Now let's think of some words that begin with t. Like let's start with TO. Who else--what else w--starts with tuh? (3)

Lesson 5, Task 3

T: Now you tell me--You give me an m for--you give me a word that starts with m. (1)

Lesson 2, Task 4

T: I have some paper here and what I would like you to do is to make a couple of t's for me. I'll give you a word that has a tuh sound and I'd like you to make a t to go with that word. Okay? I'm gonna give you a nice black pen and you can make your t just like this one up on the top. (7)

Lesson 5, Task 4

T: Could you make me--print a couple of m's? We'll print an m for monster and milk and then we'll draw a picture of a monster or a milk carton or a marshmallow. Let's all make an m just like at the top of your paper. Make an m right up there just like it. (5)

Lesson 2, Task 5

T: Now let's look at our tuh story. Remember from yesterday. I read it first and then you get to read it. (3)

Lesson 5, Task 5 (after a child interjects the comment that he's going outside to play)

T: Huh, do you know what? You guys (inaudible) you didn't hear our m story. Know what it's about? A monster. (4)

Truncation of teacher's QRE directives. A change was observed in the patterning of interaction during QRE structured tasks, both within and across lessons. The teacher usually shortened her directives to individual children as task performance and responding began to operate smoothly. Here are the directives given during the letter selection task in the two lessons. We skipped the first because it appeared directly after the general directions for the task, and skipped some in the middle because they are similar to the middle ones that are reported.

Lesson 2

Directive 2:	Okay, AN. Let's let AN go and then JE. Get a t outa there.
Directive 3:	There's some big ones and some little ones.
Directive 4:	Okay KR.
Directive 6:	Okay TO. Look again. See what you can find.
Directive 8:	JE picks letter before teacher verbally directs him.
Directive 10:	Okay TO.
Directive 11:	Okay AN. They're getting very hard to find now. There's just a couple left.
Directive 12: (last)	JE. There's one real silly looking t. See if you can find that one. You have to be very good to be able to find . . .

Lesson 5

Directive 2: Oh, AN. Can you find an m, our letter for today?
Directive 3: Let's let TO get one.
Directive 4: KR. Let KR go next.
Directive 6: AN. Let's let AN go next then you can go TO.
Directive 8: Okay KR.
Directive 10: Okay AN.
Directive 11: Okay TO. Look closely. You may have to move 'em around a little bit.
Directive 12: (last) Okay. Let's see, KR. I see it. This is a tricky one. Can you see it?

Directives changed within each lesson. At first, the teacher reminded the children of the task; in the middle she usually reminded them only of their turn, with an okay and their name; and at the end, because of the scarcity of letters, she added comments, offering hints so that they would be successful. Over the two lessons, there was a decrease principally in the teacher's initial description of the task. However, she continued to issue regulatives to maintain a rapid response rate and again provided additional comments at the end.

Effects of Competency Differences among Children

When we study lessons as social contexts, we should expect to find interactive effects: Not only does the teacher influence students, but students in turn affect the teacher. To identify these effects, we needed to have children in a group who differed from one another. We chose to focus on a contrast in knowledge about reading, placing one higher-knowledge child in each group of four children. That allowed

us to measure both differences in children's displays of competence and differences in the teacher's responses. That is, the first step in the analysis was to confirm that the one high-knowledge child either used more speech acts altogether or used them in different proportions than the other three. The second step was to determine whether or not the teacher responded differently to this child than to the others.

Differences in children's display of competence. Differences among the children were expected based on a notion that competence is evident from the use of clear and accurate statements and a larger number of correct responses. Thus, we tabulated for each child the number of performative statements (e.g., "I can do . . .") in conjunction with statements made about the task (e.g., "this is a picture of mud"), requests to do the activity first, alone, or without help (e.g., "I wanna read it by myself"), and correct responsives. It is important to note that while children were given an equal number of opportunities to respond and did not differ in the incidence of requestives, regulatives, or expressives, they varied as expected in their use of assertives, performatives, and responsives.

Differences among children on the quantitative characteristics (presented in Table 6) show clearly that JE, the child with the most knowledge of prereading, made a larger number of descriptive statements to the teacher about the tasks, more often issued remarks about task-related activities, and despite receiving no more directives to answer than did

other children, found more opportunities to express his knowledge. Here are some of his remarks, nearly all of which drew a teacher response.

Insert Table 6 about here.

In comparison to other children's remarks, also presented below, JE's statements show his greater ability to describe accurately the tasks.

JE:	(1) I made a gigantic t.	JE's first five remarks were made during the letter-picture drawing task. All were appropriate to the task and secured a teacher response. In remark (7) he asked to read the m story.
	(2) Look at my gigantic t.	
	(3) Want me make a smaller m?	
	(4) I'm goin to make both m's.	
	(5) Here's a mouse.	
	(6) I'm goin to color in the pictures.	
	(7) I wanna read that all by myself.	
KR:	(1) Look at the tree I made.	All of KR's remarks were made during the letter-picture drawing task. Remark (2) occurred when he was supposed to be drawing t pictures, No. 3 referred to his picture of mud, in No. 4 he wanted to draw a letter, and in No. 5 he was talking about the letter m.
	(2) Look at those pears on there.	
	(3) Look at this. A person's splashin in it.	
	(4) I wanna do that.	
	(5) I can make a little-- (gestures to complete thought).	
AN:	(1) And this is gonna be--this is a monster.	AN's second response occurred after the teacher tried to interest her in drawing something that began with m.
	(2) I wanna make a flower.	
TO:	(1) I made mud.	TO's second response occurred during story-reading. He wanted his turn to read.
	(2) I'm--I'm doing it.	

Even before the end of the second lesson (which was JE's first lesson since he had been absent the day before), JE had begun in several ways to demonstrate his greater competence. On the easy, letter-picking task (Task 2), JE found letters before the teacher could issue a directive. Then, following the task of pointing to letters in the story (Task 6), the teacher commented to all the children, "All those words have a at the beginning, don't they?" JE, apparently noticing t's at other locations in words, added, "And at--in the middle and in the last." After one reading of the new story by the teacher, JE began to insert the correct word or phrase both during his own turn and when others had been nominated. In the fifth lesson he was even more confident. Twice he reached for the book, thrice requested to read it, and on several occasions told other children the word if they hesitated. In addition, when drawing, he was able to ask the astute question, "What else starts with m?" and was the only one to be able to say, "I don't know that word."

Differences in the teacher's verbal response to children. Relying on our intuitions that teachers try to foster correct responses and also are more apt to notice clear and accurate statements, we expected that the high-competence child's statements and responses would be somehow highlighted by the teacher. We tabulated separately the remarks made by the teacher to each child. Differences in her use of speech acts are shown in Table 7.

Insert Table 7 about here.

While the teacher made similar numbers of requestive remarks and change-influencing responses to all children and gave them about the same number of opportunities to respond, she did not distribute her other remarks equally. She more often verbally noted JE's responses or remarks (by repeating, praising, or acknowledging) and also carried out longer or more frequent interchanges with him. As a result, nearly a third of all her remarks were directed to him while the other children each received a little less than their quarter share.

Additionally, two unusual remarks by the teacher occurred in Lesson 2 (letter picking) which set JE apart from the other children. Noticing how quickly he found letters, she exclaimed, "Oh, JE knows right away." To AN, however, she said, "Can you find one? There's a couple more left. Let's look through 'em. C'n you find one? See a t?" KR was also helped: "Let's look. There's some big ones and some little ones." TO was nearly helped: "Now there's just a--that's a good pick." Furthermore, to JE on his last turn, she challenged with, "There's one real silly looking t. See if you can find that one. You have to be very good to be able to find--there you did it." By contrast, when KR got the last turn for the same task in the fifth lesson, she implied her readiness to help saying, "Can you see it?" Thus, even with a task that all of these children were able to accomplish, the teacher made remarks that in subtle ways differentiated JE from the others. JE's greater competency was acknowledged through the teacher's special comments to him and her greater readiness to help the others.

Another revealing incident occurred in Lesson 2 during letter drawing (Task 4). The teacher had been telling the children what they could draw that began with t, because none had yet thought of any words by themselves. Turning to JE, she said "How 'bout a turtle. Can you do a turtle?" JE shook his head, looked down at his paper. "Whatchado?" she asked. JE answered, "Teetertotter." She was apparently surprised that his competency extended this far, for her praise was loud with a strong emphasis on his answer: "Teetertotter, that's great. That's just exactly right."

Differences in selection of turntaker. Another way to highlight a response is to give a child the first turn for a task. To look at this, we compared the teacher's selection of the first turntaker. In Lesson 2, TO was asked to begin letter picking, letter-word matching, and on three occasions to start rereading a story (where the orderly sequence was broken in order to begin with TO). JE and AN were each asked to begin one of the story rereadings, and JE was asked to begin the name-card task. In Lesson 5, JE was asked to initiate letter picking, word repetition (Task 7), letter-word matching, and two of the four story-reading occasions. The other two story readings were begun in the regular sequence by KR. Thus, even though the teacher had agreed beforehand to assign turns in the same sequence from child to child, she most often started Lesson 2 tasks with TO (perhaps she did not yet realize JE's greater competency) and nearly always chose JE to begin Lesson 5 tasks.

Discussion

Did the children know better by the fifth lesson how to interact with the teacher? Evidence from several sources indicates that the answer is yes. The first piece of evidence comes from incidence of violations of turntaking rules (Table 1). In all categories of violations children made fewer inappropriate remarks in Lesson 5 than they did in Lesson 2 (17 versus 35). Taking into account the fact that children made half again as many remarks in the fifth lesson, the disparity becomes even larger (8% of all Lesson 5 remarks and 25% of Lesson 2 remarks). Our interpretation that the reduction of violations is due to social learning is compelling because reductions occurred for all tasks (Table 5).

The decrease over the two lessons in inappropriate remarks accompanied by an increase in children's speech acts is the second piece of evidence that children were learning the social interaction patterns. While there was little change in the incidence of children's responsives, incidence of requestives, assertives, and performatives increased from 20 remarks in Lesson 2 to 57 remarks in Lesson 5. Regulatives and expressives increased from 34 to 84. When these were broken down according to the participation structure in which they had occurred (Table 4), it was apparent that most of the increase in self-initiated remarks occurred during the CIR structure, while the principal increase in responsives occurred in the QRE structure. This indicates that the children adapted to the particular turntaking structures, utilizing both structures more effectively in order to increase their participation in the lessons.

Finding that the children did learn to make more accurate and more extensive use of social patterns to participate in the lesson permitted us to ask a question about effects on the teacher. Were the changes in children's social knowledge noticed by the teacher. If so, what were her responses? An analysis of task directions, given for the same tasks in Lessons 2 and 5, suggests that the teacher did perceive these changes. In Lesson 5, she gave a briefer description of each of the four tasks that had also occurred in Lesson 2. An analysis of her directives in the QRE structure also supported this interpretation. She made fewer controlling statements in the Lesson 5 task than the Lesson 2 task. Further, there was an orderly truncation of directives within each task, so that "Okay" or the child's name often became sufficient to cue the right child to answer a question or carry out a task.

Next, we looked at the effect on the teacher of children who differed in their knowledge about reading. The teacher's responses to the children indicated without doubt that she was affected by JE's displays of competence. While giving the children an equal opportunity to respond, she repeated, acknowledged, or praised JE's answers far more frequently than those of the other children (Table 6). This seemed to be an appropriate action in this context because it made the other children better aware of good or correct answers. Interestingly, in a later interview, the teacher reported that until reading this paper she had not realized the extent of JE's influence.

The final effect of JE's competence that we analyzed was teacher selection of the first responder. While in Lesson 2 (JE's first lesson), JE was twice chosen to be first, and in Lesson 5 he was chosen to begin five of the seven tasks. This was also an appropriate response, because it helped to minimize children's errors. That is, a high-knowledge child is more likely to model the task accurately, making the task somewhat easier for the other children. The teacher's choosing JE most often in Lesson 5 indicates that she was reacting to his greater competency and was adapting her lesson structure accordingly.

A Social Interaction Model

While the patterning of social interactions revealed by this analysis of two lessons given to young children may not prevail in public school classrooms among older children, it ought to provide a model for teachers of the social strategies to be aware of, particularly when introducing young children to formal lessons. It is apparent that teachers often play a role not unlike that suggested by Bruner (1976), Snow (1976, Note 5), and Cazden (Note 6), who studied how young children learn through interaction with their mothers. They showed that a predominant pattern is a routinized game between mother and young child in which the child is given an increasingly larger role to play until the game can be carried out successfully with mother as onlooker. In similar fashion to the QRE structure, the mother asks questions to which she knows the answer, and the child's principal role is to perform without error. However, there

the similarity ends, because in a school setting, a teacher must interact with a group of children rather than a single child and must somehow figure out how to provide opportunities for several children to perform flawlessly and yet gain increasing expertise. Evidence from this study suggests that the problem of how to interact with a group of children rather than one child can be resolved by routinized use of a familiar participation structure, that is, by making frequent use of exactly the same interaction pattern with repeated use of the same set of tasks. With its repetition, the teacher can gradually diminish his or her role until a word or nod is sufficient to initiate the next round of student participation. Our teacher used the QRE structure to achieve this effect. However, to keep children from feeling that they had no interactional rights (see Au, 1980), she occasionally allowed the CIR structure; that is, she relinquished her control of the setting so that children could initiate requests or statements to her. Flawless performance, or minimizing errors, is addressed by (a) coupling a familiar participation structure with a task so that children can focus on the cognitive rather than social demands, (b) revising tasks or giving more clues about the answer when incidence of errors is high, (c) giving the "hard" questions to more competent students and "easy" questions to less able students, and (d) highlighting and prolonging interactions with high-competence children in order that their display of knowledge can serve as a model for other children. In this study, these were achieved in the following ways. First, coupling the QRE or CIR

participation structure with particular tasks occurred throughout the lessons. Thus, the children quickly learned to expect to interact with the teacher in a certain way as soon as a task was announced. Second, when errors were high, the teacher eliminated the task in later lessons or preceded the task with more information and gave more clues during its occurrence. That meant a decrease over the set of lessons in wrong responses. Third, dispensation of hard items to more able children meant turning to JE. Although the teacher was committed to circling round the group for turns, which meant that she could not pick out hard items for him to answer, she created a substitute, that of giving him the first turn of most tasks. The fourth point, highlighting responses of more able children, was very apparent. JE was praised and his answers accepted or repeated by the teacher far more frequently than was the case with the other children.

The model proposed here of social interaction in the primary grades is characterized by establishment of routinized macrostructures (task and turntaking procedures) but also by frequent modification of microstructures (type of speech act, particularly incidence of teacher responsives to children's answers) and ordering turntakers. Macrostructures are established by the teacher and, based on their familiarity to the children, are gradually or rapidly learned. As they are put into place (become routinized), the social interaction between teacher and students proceeds more smoothly, making it more likely that messages from a teacher about the nature of the task or messages from children about their need for help, preferences, or understanding of the task become easier to communicate

and easier to interpret. The microstructures, manipulated by the teacher to improve children's opportunities to learn, serve as fine-tuned adjustments on the lesson as a whole.

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Appendix A

Speech Act Classification System

Student speech acts

Requestives. Asks for information, help, or permission: "I can't make m's." "What is that thing up there for?"

Assertives

Statement. On-task remarks which describe or report information about the lesson: "I got a big one." "A person's splashin in mud."

Comment. Off-task remarks which describe or report information that are not related to the current task: (T introducing lesson) "I don't like mayonaise." (T starting to read story) "I don't have my picture in yet."

Performatives. Claims of action carried out or about to be carried out: "I'm goin to make both m's." "I make mud."

Responsives

Correct. Satisfactory verbal or nonverbal response to teacher's prompt or directive: JE picks letter from box; T: "What's your m for?" TO: "Marshmallow."

Incorrect. Unsatisfactory verbal or nonverbal response to teacher's prompt or directive: TO picks a card. T: "Oh is that a t?"

Ignore or avoid. No response to teacher or rejection of teacher's answer: T: "OK, what's your last m for? Mud?" JE shakes head; T: "AH, could you make a little mommy?" AH does not respond.

Regulatives and expressives

Repetition or acceptance. Repetition of teacher's remark or acknowledgment of teacher's remark: T: "Say mud." KR: "Mud." T: "What's on your car? A tire?" JE nods.

Miscellaneous conversational devices. Attention getters, politeness markers, fillers, exclamations: "Yuk." "Umm." "Aak." "Look!"

Teacher speech acts

Requestives

Prompt. Examination-type question or request to student when answer is known by teacher: "Who knows whose name this is?" "What are they doin?" "Can you give me an m word?"

Directive. Action request: "Put it right here." "Okay, KR," (placing letter box before child). "Can you make a t for a toad? Make a t for a toad."

Question. Question when answer is not known by teacher or when clarification is needed: "You got both monster and a mud or is that a mommy?" "Shall I help you make an m? Is that what you need, AN?"

Assertives

Statement. Expression of information, rules, explanations or descriptions of lesson content, or of students' role: "Okay, this is called teeny tiny." "I see it. This is a tricky one." "It's the letter m and it's our special letter for today."

Responsives that do not attempt to change student behavior

Answer. Responses to student questions: JE asks, "Want me to make a smaller m?" T: "Yes." JE asks, "What else starts with m?" T: "Mouse."

Acceptance. Acceptance of student's response with a neutral marker: "Okay." "Right." "Thank you." "Yes."

Praise. Marks student's response with a positive statement: "Good." "Super." "Wonderful." "Very nice."

Repetition or expansion. Repetition or expansion of student's response or remark: AN: "Mouse." T: "Mouse."

Responsives that attempt to change behavior

Admonishment. Criticizes, rejects, or otherwise attempts to change behavior: JE gives answer out of turn. T: "Shh. Let AN do it now."

Correction. Completion or correction of student's answer or statement: Child misreads word saying, "Frog." T: "Toad"; KR has made a picture, saying, "Hey but that's a . . ." T: "A picture of a t word." KR: "But that's a . . ." T: "A turnip."

Aid. Giving partial information to student which makes task easier or supplies answer if child hesitates. T helps by exposing a t card in a box saying, "Let's look through 'em;" T gives one of the words in a sentence saying, "What kinda table? A teeny . . ." T repeats what child read, hesitating at point where he made an error, saying, "A teeny tiny . . ."

Regulatives

Conversational devices. Rhetorical questions, speaker selections, boundary markers, etc.: "Okay." "Now." "All right." "Ya know what?"

Table 1

Violations of Turntaking Rules

Structure	Lesson 2	Lesson 5	Total
TDL			
Interrupts teacher	5	2	7
QRE			
Inserts statement or comment out of turn	3	1	4
Inserts answer out of turn	11	11	22
CIR			
Overlaps teacher's utterance with statement or request	15	3	18
Overlaps other child's utterance	1	0	1
Total	35	17	52
Percent of children's total remarks	25%	8%	15%

Table 2

Children's Speech Acts

Speech Act	Lesson 2		Lesson 5		Total	
	N	Rate per Minute	N	Rate per Minute	N	Rate per Minute
Requestives	1	.07	9	.62	10	.34
Assertives	14	.92	31	2.12	45	1.51
Performatives	5	.33	17	1.20	22	.74
Responsives	79	5.20	69	4.86	148	4.97
Regulatives and Expressives	34	2.24	84	5.92	118	3.96
Inaudible	7	.46	5	.32	12	.40
Total	140		215		355	

Table 3

Teachers' Speech Acts

Speech Act	Lesson 2		Lesson 5		Total	
	N	Rate per Minute	N	Rate per Minute	N	Rate per Minute
Requestives	108	7.11	99	6.78	207	6.95
Assertives	39	2.57	27	1.85	66	2.21
Regulatives	65	4.28	57	3.90	122	4.09
Change-Initiating Responsives	65	4.28	40	2.74	105	3.52
Other Responsives	60	3.95	77	5.27	137	4.60
Total	337		300		637	

Table 4

Frequency of Children's Speech Acts as a

Function of Lesson and Participation Structure

	Lesson 2			Lesson 5		
	TDL	QRE	CIR	TDL	QRE	CIR
Requestives, Assertives, & Performatives	2	5	14	5	8	44
Responsives	0	71	8	0	69	0
Regulatives & Expressives	0	24	10	3	67	14

Table 5

Change in Children's Speech Acts

as a Function of Task

Task	Lesson 2		Lesson 5	
	n	Speech Acts/min.	n	Speech Acts/min.
2	20	5.9	27	11.7
3	11	9.6	25	13.9
4	30	7.1	49	11.1
5	64	14.1	107	18.4

Table 6

Differences Among Children in Their Displays of Competence in Performing Tasks in Lessons 2 and 5

	High-Knowledge	Low-Knowledge		
	JE	AN	TO	KR
Requestives	3	3	2	2
Assertives	12	5	8	11
Performatives	12	2	3	5
Legal responsives	39	20	24	30
Illegal responsives	15	0	6	1
Whispered responses to turntaker	9	0	0	0
Total correct responses	43	17	20	19

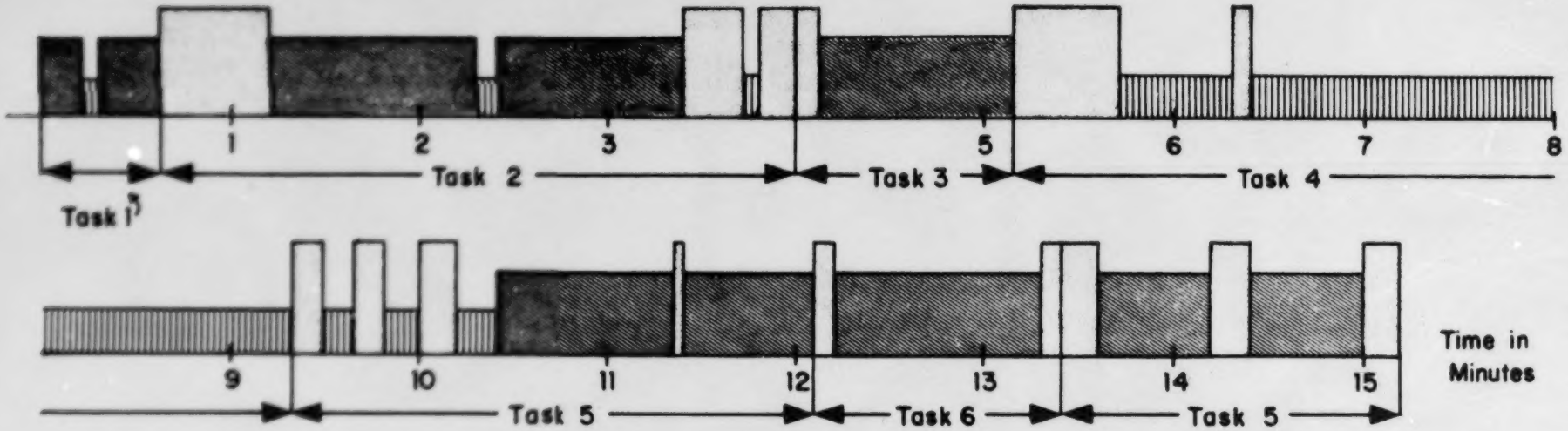
Table 7

Teacher Directives, Responses, and Comments to a High-Competency Child in Comparison to Low-Competency Children

	High	Low			Total
	JE	AN	TO	KR	
Requestives (directive, question, prompt)	44	49	38	38	169
Responses that attempt to change behavior (correct, admonish, aid)	21	19	14	17	71
Responses that have a neutral effect (accept, repeat, answer)	31	13	18	15	77
Responses that favorably evaluate (praise)	15	6	7	7	35
Assertives or regulatives that extend interaction with child (statements, conversational devices)	30	15	24	26	95
Total number of remarks	141	102	101	103	447

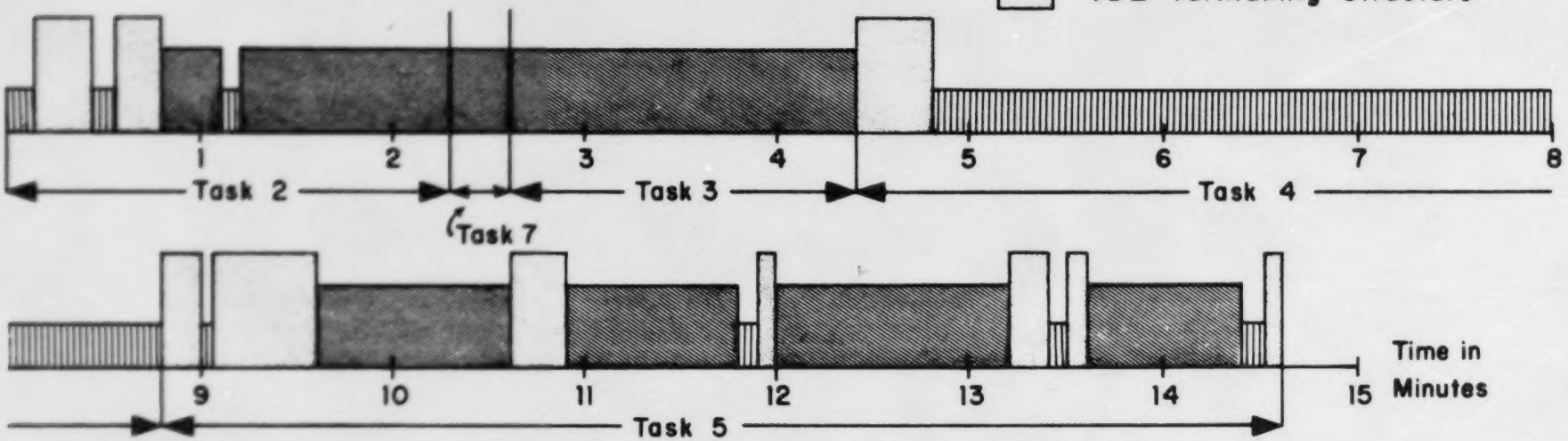
Figure Caption

Figure 1. Transcription of lessons 2 and 5 in terms of time spent in each task and turntaking structure.



Transcribed Lesson Number Two

KEY:
- CIR Turntaking Structure
- QRE Turntaking Structure
- TDL Turntaking Structure



Transcribed Lesson Number Five

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